What is claimed is:

1   1.   A method of assigning resources for a computer system design

2   comprising:

3   a. receiving desired levels of performance parameters for a computer

4   system design from a user via a user interface to a computer system;

5   b. modifying the design in response to said desired levels;

6   c. predicting levels of performance parameters for the modified design of

7   the storage system; and

8   d. displaying for the user indicia of the predicted levels of performance

9   parameters for the modified design.

1   2.   The method according to claim 1, wherein the computer system design

2   comprises a design for a data storage system.

1   3.   The method according to claim 1, wherein said modifying includes

2   reducing said desired levels of performance parameters.

1   4.   The method according to claim 3, wherein said reducing is based on utility

2   functions.

1   5.   The method according to claim 4, further comprising:

2   a. receiving the utility functions via the user interface to the computer

3   system; and

4   b. storing said utility functions in a memory device of the computer

5   system.

1   6.   The method according to claim 1, wherein the desired levels of

2   performance parameters are specified by the user through a graphical user

3   interface.

1   7.   The method according to claim 1, wherein the desired levels of

2   performance parameters are specified by the user through a graphical user

3   interface by the user manipulating heights of bar graphs shown on a

4   display of the computer system.

1   8.   The method according to claim 7, wherein each bar graph includes first

2   indicia of the corresponding desired level of the performance parameter.

1   9.   The method according to claim 8, wherein each bar graph includes second

2   indicia of the corresponding predicted level of the performance parameter.

1   10.   A method of assigning resources for a computer system design

2   comprising:

3   a. receiving desired levels of performance parameters for a computer

4   system design from a user via a user interface to a computer system;

5   b. developing the design;

6   c. predicting levels of performance parameters for the design;

7   d. comparing the predicted levels of performance parameters to the

8   desired levels of performance parameters; and

9   e. modifying the design when the predicted levels are lower than the

10   desired levels, said modifying being performed by the computer

11   system.

1   11.   The method according to claim 10, wherein the computer system design

2   comprises a design for a data storage system.

1   12.   The method according to claim 10, wherein said developing comprises

2   assigning system resources to applications to be served by the design.

1   13.   The method according to claim 12, said assigning being performed by a

2   design tool operating on the computer system.

1   14.   The method according to claim 10, wherein said modifying includes

2   reducing said desired levels of performance parameters.

1
2
15.   The method according to claim 14, wherein said reducing is based on utility functions.

1
2
16.   The method according to claim 15, further comprising receiving the utility functions via the user interface to the computer system.

1
2
17.   The method according to claim 10, wherein the user interface is a graphical user interface.

1
2
3
4
18.   The method according to claim 17, wherein the desired levels of performance parameters are specified by the user through the graphical user interface by the user manipulating heights of bar graphs shown on a display of the computer system.

1
2
19.   The method according to claim 18, wherein each bar graph includes first indicia of the desired level of the corresponding performance parameter.

1
2
3
20.   The method according to claim 19, wherein each bar graph includes second indicia of the predicted level of the corresponding performance parameter.

1
2
21.   The method according to claim 10, further comprising repeating said steps of predicting and comparing after said modifying.

1
2
22.   The method according to claim 21, wherein when the predicted levels are lower than the desired levels after said modifying, then notifying the user.

1
2
3
4
5
6
7
23.   An apparatus for assigning resources for a computer system design, comprising a computer system programmed to operate in a first program loop in which a user specifies desired levels of performance parameters of the design and a second program loop in which: performance parameter levels are predicted for the design; the predicted performance parameters are compared to the desired levels of performance parameters; and the design is modified in response to the comparison.

1   24.   The apparatus according to claim 23, wherein the computer system design

2   comprises a design for a data storage system.

1   25.   The apparatus according to claim 23, wherein the design includes

2   assignments of system resources to applications to be served by the design.

1   26.   The apparatus according to claim 23, wherein the modifications include

2   reducing said desired levels of performance parameters based on utility

3   functions.

1   27.   The apparatus according to claim 26, wherein the utility functions are

2   specified by the user.

1   28.   The apparatus according to claim 23, wherein the desired levels of

2   performance parameters are specified by the user through a graphical user

3   interface.

1   29.   The apparatus according to claim 28, wherein the desired levels of

2   performance parameters are specified by the user through the graphical

3   user interface by the user manipulating heights of bar graphs shown on a

4   display of the computer system.

1   30.   The apparatus according to claim 29, wherein each bar graph includes first

2   indicia of the desired level of the corresponding performance parameter.

1   31.   The apparatus according to claim 30, wherein each bar graph includes

2   second indicia of the predicted level of the corresponding performance

3   parameter.